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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/361,803	07/27/1999	MITSUHIRO KUNIEDA	35.G2440	5976

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/361,803

Applicant(s)

KUNIEDA ET AL.

Examiner

Christopher RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24 and 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The indicated allowability of claims 24 and 26 is withdrawn in view of the newly discovered reference(s) to Suzuki in US Patent Application Publication 2004/0214101.

Rejections based on the newly cited reference(s) follow.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in US Patent Application Publication 2004/0214101 in view of Organic Photoreceptors for Imaging Systems to Borsenberger, pp. 6-19, 181, 182 & 203-211, and further in view of JP 01-84265, or Kawamorita *et al.* in US Patent 5,202,214, or Kovacs in US Patent 5,373,313.

Suzuki discloses a photoreceptor for use in an electrophotographic apparatus which employs a semiconductor laser beam light source (§ [0006]). This photoreceptor contains both a phthalocyanine pigment and an azo pigment of the formula (I) (Abstract). The electrophotographic photoconductor is advantageous in light absorption and sensitivity because the phthalocyanine pigment gives rise to light absorption in the wave range with long wavelengths of 600 nm or more, and exhibits high sensitivity, and the disazo pigment of formula (I) gives rise to light absorption in the visible region, and especially exhibits high sensitivity in the wave range of 400 to 700 nm (§ [0035]).

The photoreceptor contains a conductive support, a charge generation layer 17 having a binder resin, the azo pigment, and the phthalocyanine, and a charge transport layer 19 on the

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charge generation layer See Figure 3. The charge transport layer contains a binder resin and a positive hole transport compound (§ [0082], [0086]). Triarylamines are specifically referenced as effective hole transport materials (§ [0084]). The photoreceptor is specifically tested at various exposure wavelengths, including 500 nm (§§ [0132]-[0133]).

Suzuki does not disclose the specifics of the electrophotographic apparatus structure or the specific hole transport material presented in the instant claims. Suzuki also does not disclose a transmittance of at least 30 % for the charge transport layer.

Borsenberger teaches the conventional components of an electrophotographic imaging apparatus. These components include a charging means, an exposure means, a developing means, and a transfer means. See Figures 5-7 where these components are depicted in both drum and belt photoreceptor devices. Also note the supporting text for a discussion of the underlying processes corresponding to these means. Borsenberger also discloses conventional hole transport compounds noting that arylamines are common in the art (p. 181). Specific common arylamines are tri-p-tolylamine and triphenylamine (pp. 203-211). These compounds are shown in the reference to be well studied when used as a dopant in a binder resin for formation of a charge transport layer, which is the formulation described by Suzuki.

JP '265, Kawamorita, and Kovacs each disclose the use of semiconductor laser exposure sources for electrophotographic imaging apparatuses. See the Office action of 5 June 2003 pp. 6-7. Each of these reference discloses exposure with this laser within the range of 400 to 500 nm, which is within the disclosure of Suzuki's exposure wavelengths and within the scope of the instant claims. For example, see the Abstract of the JP document, column 1 of Kawamorita, and column 6 of Kovacs.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the photoreceptor of Suzuki in a conventional electrophotographic

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apparatus having the means taught by Borsenberger because Suzuki teaches that the photoreceptor is designed for use in an electrophotographic apparatus and Borsenberger discloses the typical construction of an electrophotographic apparatus. The use of the photoreceptor in the apparatus with conventional components, which is shown by Borsenberger, would have been *prima facie* obvious. It would also have been obvious to use the triarylamines hole transport compounds disclosed by Borsenberger as the hole transport compounds in Suzuki because Suzuki teaches that triarylamines are known to be effective in the charge transport layer of that photoreceptor and Borsenberger teaches tri-p-tolylamine and triphenylamine as effective, well-known, and extensively studied triarylamine hole transport compounds. The use of a known compound(s) for its known function when called upon for that function, and particularly when within the genus of compounds suggested, would have been *prima facie* obvious. The artisan would have found it obvious to use a semiconductor laser with exposure in the range of 400 to 500 nm as the light source in Suzuki because this reference teaches semiconductor light sources as desired, discloses exposure wavelengths within this range, particularly 500 nm, and the supporting art teaches that semiconductor lasers are known to provide exposure within the range of 400 to 500 nm. The use of a known exposure device for its known function when called upon by the reference would have been obvious to obtain the desired wavelength of exposure.

Suzuki does not specify the transmittance of the charge transport layer at the wavelengths where the member is exposed but the artisan would expect the charge transport layer to have little absorbance (i.e., a large transmittance) in the wavelength of exposure because if the charge transport layer absorbed a large amount of light in the exposure wavelength it would reduce the charge generation effect in the underlying charge generation

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layer. The charge generation effect is catalyzed by light and the artisan would expect and desire the maximum amount of exposure light to reach the charge generation layer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
23 June 2005


CHRISTOPHER RODEE
PRIMARY EXAMINER